What is claimed is:

1. An apparatus for defining a direction of approach to a subsurface target along a predetermined path for use with imaging equipment, the subsurface target being located below a surface, the apparatus comprising:

a support structure carrying a plurality of fiducials defining the predetermined path relative to the support structure, the support structure having a size and shape locating the fiducials outwardly of the surface and defining an air gap between the fiducials and the surface; and

a visible light source generating a visible light beam traveling along the predetermined path and being indicative of a direction of approach to the subsurface target.

2. The apparatus of Claim 1, wherein the support structure is radiolucent.

3. The apparatus of Claim 1 further comprising a radiotransparent reflector for directing the visible light beam along the predetermined path.

4. The apparatus of Claim 1, wherein the support structure is substantially circular.

5. The apparatus of Claim 3, wherein the support structure is substantially circular.

6. The apparatus of Claim 4, wherein the predetermined path is defined along the diameter of the support structure.

7. The apparatus of Claim 1, wherein the visible light source serves as one of the fiducials.

8. The apparatus of Claim 1, wherein the visible light source is mounted on the support structure.

9. The apparatus of Claim 1, wherein the visible light beam travels from the visible light source to the predetermined path through a light conductor.

B1 10. The apparatus of Claim 1, wherein the support structure comprises two oppositely spaced fiducials.

11. The apparatus of Claim 1, wherein a displacement of the fiducials relative to the subsurface target alters the predetermined path to the subsurface target.

12. The apparatus of Claim 4, wherein a displacement of the support structure relative to the subsurface target places the subsurface target in the center of the diameter of the support structure.

13. The apparatus of Claim 1, wherein the visible light beam is a laser beam.

14. The apparatus of Claim 1, wherein the fiducials are radio-opaque.

15. The apparatus of Claim 1, wherein the fiducials are non-ferromagnetic.

C27 16. A system for defining a direction of approach to a subsurface target by illuminating a predetermined path with a visible light beam, the subsurface target being located below a surface, the system comprising:

an imaging machine having an image plane, the image plane having a plurality of degrees of freedom;

a support structure having at least one rotational and at least two translational degrees of freedom;

at least two fiducials mounted on the support structure and situated in the image plane, the support structure having a size and shape locating the fiducials outwardly of the surface and defining an air gap between the fiducials and the surface; and

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a visible light source generating the visible light beam traveling along the predetermined path and illuminating the path as a direction of approach to the subsurface target.

17. The system of Claim 16, wherein the imaging machine is a computer tomograph or a magnetic resonance imaging machine.

18. The system of Claim 16, wherein the support structure has as many degrees of freedom as the image plane of the imaging machine.

19. The system of Claim 16, wherein the support structure is substantially circular.

20. The system of Claim 16 further comprising a radiotransparent reflector coupled to the support structure for directing the visible light beam along the path.

21. The system of Claim 16, wherein the visible light beam is a laser beam.

22. The system of Claim 16, wherein the visible light beam travels from the visible light source to the path through a light conductor.

23. The system of Claim 19, wherein the path is defined along the diameter of the support structure.

24. The system of Claim 16, wherein the fiducials are radio-opaque.

25. The system of Claim 16, wherein the fiducials are non-ferromagnetic.

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26. A system for defining a direction of approach to a subsurface target by illuminating a predetermined path with a visible light beam in an imaging machine, the subsurface target being located below a surface, the system comprising:

a support structure having a plurality of fiducials defining the predetermined path relative to the support structure, the support structure having a size and shape locating the fiducials outwardly of the surface and defining an air gap between the fiducials and the surface;

a visible light source generating the visible light beam traveling along the path and illuminating the path as a direction of approach to the subsurface target; and

a computer-based system for executing a set of procedures serving to select the predetermined path by determining an optimal path to the subsurface target.

27. The system of Claim 26 further comprising a radiotransparent reflector coupled to the support

structure for directing the visible light beam along the path.

28. The system of Claim 12, wherein the imaging machine is a computer tomograph or a magnetic resonance imaging machine.

29. The system of Claim 26, wherein the support structure comprises two oppositely spaced fiducials.

30. The system of Claim 26, further comprising means for providing a displacement of the fiducials relative to the subsurface target to alter the path to the subsurface target, the displacement being calculated by the computer-based system.

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31. The system of Claim 26, wherein the support structure is substantially circular.

32. The system of Claim 31, further comprising means for providing displacement of the support structure relative to the subsurface target to place the subsurface target in the center of the diameter of the support structure, the displacement being calculated by the computer-based system.

33. The system of Claim 26, wherein the visible light beam is a laser beam.

34. The system of Claim 26, wherein the fiducials are radio-opaque.

35. The system of Claim 26, wherein the fiducials are non-ferromagnetic.

36. A method of determining a path to a subsurface target for use with imaging equipment having an image plane and an output device, the subsurface target being located below a surface, the method comprising the steps of:

supporting a plurality of fiducials situated in the image plane, the fiducials being located outwardly of the surface in a manner defining an air gap between the fiducials and the surface;

observing positions of images of the plurality of fiducials in the output device; and

utilizing the positions of the images of the plurality of fiducials to determine the path to the subsurface target.

37. The method of Claim 36 further comprising repositioning the plurality of fiducials relative to the subsurface target, so that new positions of the images of the plurality of the fiducials can be utilized to identify another path to the subsurface target.

38. The method of Claim 36 further comprising providing a visible light beam generated by a source, the visible light beam traveling along the path and illuminating the path as a direction of approach to the subsurface target.

39. The method according to claim 38, further comprising deactivating the imaging equipment while utilizing the visible light beam to approach the subsurface target.

40. The method of Claim 38, wherein the visible light beam is a laser beam.

41. The method of Claim 38, further comprising directing the visible light beam along the path by means of a radiotransparent reflector.

42. The method of Claim 38, wherein the visible light beam travels from the source to the path through a light conductor.

43. The method of Claim 36, wherein two oppositely spaced fiducials are situated in the image plane.

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44. The method of Claim 36, wherein the fiducials are radio-opaque.

45. The method of Claim 36, wherein the fiducials are non-ferromagnetic.

46. A method of selecting a desired location of a subsurface target in an imaging machine having an output device for use with an apparatus comprising a plurality of fiducials carried by a support structure, the subsurface target being located below a surface, the method comprising:

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positioning the support structure to locate the fiducials outwardly of the surface in a manner defining an air gap between the fiducials and the surface;

positioning the subsurface target relative to the apparatus in the imaging machine such a way that an image of the subsurface target and images of the plurality of fiducials can be observed on the output

device and a location of the image of the subsurface target relative to the images of fiducials can be determined; and

repositioning the plurality of fiducials so that a new location of the image of the subsurface target relative to the images of the plurality of fiducials is the desired location.

47. The method of Claim 46, wherein the support structure is substantially circular.

48. The method of Claim 46, wherein the support structure comprises two oppositely spaced fiducials.

49. The method of Claim 48, wherein the desired location of the image of the subsurface target is in about the center of a line between the fiducials.

50. The method of Claim 46 further comprising executing a set of procedures on a computer-based system to implement computer-integrated control of positioning the subsurface target relative to the apparatus, and repositioning the plurality of fiducials.

51. A method of positioning an apparatus for determining a direction of approach to a subsurface target in an imaging machine, the subsurface target being located below a surface, the imaging machine comprising an image plane having a plurality of degrees of freedom, the method comprising the steps of:

providing a support structure having at least one rotational and at least two translational degrees of freedom;

providing at least two fiducials carried by the support structure;

positioning the support structure to locate the fiducials outwardly of the surface in a manner defining an air gap between the fiducials and the surface; and

positioning the fiducials in the image plane of the imaging machine by moving the support structure along its at least one degree of freedom.

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52. The method of Claim 51, wherein the support structure has as many degrees of freedom as the image plane.

53. The method of Claim 51 further comprising executing a set of procedures on a computer-based system to implement computer-integrated control of providing the support structure, providing at least two fiducials, and positioning the fiducials in the image plane.